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10/803384

HT4000USNA

Supplemental Reply Brief Under 37 C.F.R. 41.41 (5 pages)

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NO. 9334 P. 2/6

PATENT

FEB 15 2008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF:

REIYAO ZHU

CASE NO.: HT4000USNA

APPLICATION NO.: 10/803384

GROUP ART UNIT: 1771

FILED: MARCH 18, 2004

EXAMINER: ANDREW T. PIZIALI

FOR: MODACRYLIC/COTTON/ARAMID FIBER BLENDS FOR ARC AND FLAME  
PROTECTION

**REPLY BRIEF UNDER 37 C.F.R. 41.41**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The present Reply Brief responds to a new Office position set forth in the Examiner's Answer dated January 14, 2008. Accordingly this Reply Brief supplements the Appeal Brief dated November 2, 2007.

**Examiner's Answer Introduces Erroneous Interpretation**

The Examiner's Answer sets forth a new interpretation of Campbell (Campbell) U.S. Patent No. 6,787,228 B2 which publication is applied in rejections under 35 U.S.C. §103(a) against all claims under consideration in this Appeal. It is Appellant's position that a new interpretation is in error.

The applicable section of the Examiner's Answer is present on page 8, first paragraph under a heading "(10) Response to Argument". The issue presented is directed to an amount of modacrylic fibers present in a yarn which is disclosed or taught by this publication.

The Office position as follows

**The appellant asserts that 70% by weight modacrylic fibers is the lower limit set by Campbell to obtain the desired flame resistance. The examiner respectfully disagrees.** Campbell discloses that the level of flame resistance is based upon the acrylonitrile unit weight percentage of the yarns (column 3, lines 18-21). Campbell teaches that 70% by weight modacrylic fiber is the lower limit when 50% by weight acrylonitrile units are present (column 4, lines 17-21, claim 5, claim 15, and claim 29). To paraphrase, Campbell teaches that at least 35% (50% of 70%) by weight acrylonitrile units are necessary in the overall yarn composition to obtain the desired flame resistance. Since Campbell discloses that the modacrylics may have between 35% to 85% by weight acrylonitrile units (column 4, lines 15-17), when the acrylonitrile unit weight percentage is 85%, Campbell teaches that only 42% by weight modacrylic fibers will be necessary to achieve the desired flame resistance (because 42% of 85% = 35%). **To summarize, Campbell teaches that 42% to 97% by weight modacrylic fibers may be present to obtain the desired flame resistance. (emphasis added)**

The Examiner's Answer goes through various calculations in support of the following position:

Since Campbell discloses that the modacrylics may have between 35% to 85% by weight acrylonitrile units (column 4, lines 15-17),

**when the acrylonitrile unit weight percentage is 85%, Campbell teaches that only 42% by weight modacrylic fibers will be necessary to achieve the desired flame resistance**

(because 42% of 85% = 35%). (spacing and bold added)

Appellant directly states the Office position is incorrect and represents a flawed interpretation that is contrary to the direct disclosure and teachings of this publication.

Appellant directly states that Campbell does **not** "teach" 42% by weight modacrylic fibers "will be necessary to achieve desired flame resistance". There is no teaching (or disclosure) in this publication to support the position in the Examiner's Answer.

The Office position makes an assumption which is incorrect for reasons set forth below. (In the following discussion, all percentages are by weight.)

The Office assumption is based on the following premise----as the acrylonitrile units in the polymer in the modacrylic fibers increases from a value of 50% to a higher value of 85%, then correspondingly the concentration of modacrylic fibers needed in the yarn for flame resistance will decrease. Expressed another way ---50% acrylonitrile units in the polymer of a modacrylic fiber denotes 70 % modacrylic in a yarn but 85% acrylonitrile units in the polymer of a modacrylic fiber denotes a decrease to 42% modacrylic in a yarn.

In reply, Campbell **always** discloses a lower limit of **at least** (about) 70% modacrylic fiber in a yarn and **always** discloses **at least** (about) 50% acrylonitrile units are **present** in the polymer of at least (about) 70% modacrylic fibers.

Campbell's disclosure of a modacrylic content (prior to the examples) is limited to three places, namely column 4, lines 9-10, lines 57-58 and lines 62-63 as follows:

In a preferred embodiment, the yarn is a blend comprising at least about 70 percent modacrylic fibers ...

Fabric formed according to the present invention requires at least about 70% modacrylic fibers ...

Preferably, fabric with blends containing about 90 percent or more of the modacrylic fibers ... provides the most acceptable results.

Campbell's disclosure of a minimum acrylonitrile content in the modacrylic is limited to a single place, namely column 4, lines 17 to 20:

All modacrylic have flame-resistant character to some extent, however, it has been found that fabrics formed from modacrylic yarns having at least about 50 percent by weight of acrylonitrile units will provide excellent flame resistance.

Accordingly the above disclosure of Campbell is directly contrary to the Office position concerning the teachings of this publication.

Also it is noted that the Office position references dependent claims 5, 15 and 29 in support of the interpretation of Campbell.

In reply these claims serve to directly refute the Office position when read with the requirements of the parent independent claims, namely claims 1, 10 and 24. These claims read as follows:

1. A yarn comprising:
  - (a) an intimate mixture of modacrylic and high energy absorptive fibers, **the modacrylic fibers comprising at least about 70% of the fibers; ...**
2. The yarn of claim 1 wherein ...
5. The yarn of claim 2 wherein **said modacrylic fibers contain at least 50% acrylonitrile.**  
(emphasis added)
  
10. A fabric for use in safety apparel:
  - (a) the fabric ... formed from an intimate mixture of modacrylic fibers and high energy absorptive fibers, **the modacrylic fibers comprising at least about 70% of the fibers; ...**
11. The fabric of claim 10 wherein ...
15. The fabric of claim 11 wherein **said modacrylic fibers contain at least 50 percent acrylonitrile.**  
(emphasis added)
  
24. A safety garment ...
  - (a) the fabric being formed substantially of flame-resistant yarns formed from an intimate mixture of modacrylic and high energy absorptive fibers, **the modacrylic fibers comprising at least about 70% of the fibers; ...**
25. The garment of claim 24 wherein ...
26. 29. The garment of claim 25 wherein **said modacrylic fibers contain at least 50 percent acrylonitrile.**  
(emphasis added)

Accordingly the body of the patent (directed to the disclosure and teachings of Campbell) provides direct support for the wording in the claims, namely a requirement for "modacrylic fiber comprising at least (about) 70% of the fibers" such that the "modacrylic fibers contain at least 50% acrylonitrile".

Appellant has addressed an interpretation in the Examiner's Answer which is incorrect and contrary to the direct disclosure and teachings of Campbell U.S. Patent No. 6,787,228 B2.

#### SUMMARY

Entry of this present Reply Brief is requested. A response is made in answer to an Office position raised for the first time in the Examiner's Answer.

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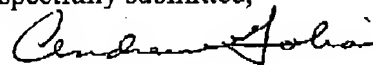
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Application No.: 10/803384

Docket No.: HT4000USNA

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Respectfully submitted,



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Dated:

February 14, 2008